

# (12) United States Patent

Maier et al.

#### US 9,409,521 B2 (10) **Patent No.:** (45) **Date of Patent:** Aug. 9, 2016

# (54) PROTECTION DEVICE FOR A STORAGE SPACE OF A MOTOR VEHICLE AND DRIVE DEVICE THEREFOR

(71) Applicants: Matthias Maier, Esslingen (DE); Bernd Starzmann, Hohengehren (DE)

(72) Inventors: Matthias Maier, Esslingen (DE); Bernd

Starzmann, Hohengehren (DE)

Assignee: BOS GMBH & CO. KG, Ostfildern

(DE)

Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 14/317,047

(22)Filed: Jun. 27, 2014

(65)**Prior Publication Data** 

> US 2015/0001874 A1 Jan. 1, 2015

#### (30)Foreign Application Priority Data

Jun. 28, 2013	(DE)	10 2013 212 574
Jun. 11, 2014	(DE)	10 2014 211 163

(51) **Int. Cl.** B60R 5/04

(2006.01)

(52) U.S. Cl.

CPC ...... B60R 5/047 (2013.01); B60R 5/045 (2013.01)

(58) Field of Classification Search

CPC ...... B60R 5/04; B60R 5/044; B60R 5/045; B60R 5/047; B60R 5/042; B60R 5/048;

B60P 7/02

296/37.14-37.16, 98

See application file for complete search history.

#### (56)References Cited

## U.S. PATENT DOCUMENTS

6,416,103	B1	7/2002	Laudenbach et al.
6,908,139	B1*	6/2005	Szieff 296/100.03
7,673,921	B2 *	3/2010	Hirayama et al 296/37.16
7,891,729	B2 *	2/2011	Fujishima et al 296/218
8,172,295	B2 *	5/2012	Fischer et al 296/24.43
8,727,414	B2 *	5/2014	Staib 296/24.43
2009/0096241	A1*	4/2009	Miyajima et al 296/37.16
2014/0015271	A1*	1/2014	Demma 296/24.44
2015/0001874	A1*	1/2015	Maier et al 296/37.16

# FOREIGN PATENT DOCUMENTS

DE	199 44 948 CI	5/2001
DE	10 2004 060 747 A	1 7/2006
FR	2 982 553 A	1 5/2013

## OTHER PUBLICATIONS

German Examination Report issued in Appln. No. 10 2013 212 574.7 dated Mar. 14, 2014 (5 pages).

\* cited by examiner

Primary Examiner — Gregory Blankenship (74) Attorney, Agent, or Firm - Flynn, Thiel, Boutell & Tanis, P.C.

#### (57)ABSTRACT

Protection device for a storage space of a motor vehicle. Such a protection device having a cartridge housing, in which at least one flexible planar formation is supported so as to be able to be wound and unwound, wherein the cartridge housing is able to be positioned so as to be secured to the storage space in vehicle-side retention receiving members, wherein the retention receiving members can be displaced inside the storage space by means of a kinematic displacement system, is known. The kinematic displacement system has vehicleside linear guides, which extend with a main direction component in the vertical direction of the vehicle and in which the retention receiving members are guided, and there is provided a storage-space-base-side recess in which the cartridge housing is arranged in a recessed manner in a rest position. Use in private motor vehicles.

# 15 Claims, 6 Drawing Sheets

